# General Chemistry I

**Chemistry 1110 - RCDE**  
**Dr. Harris**  
**Fall 2015 Course Syllabus**  
6 – 7:45 p.m., Tues. and Thurs.  
4 credits

<table>
<thead>
<tr>
<th>Dates</th>
<th>TUESDAY</th>
<th>THURSDAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>September</td>
<td>1st and 3rd</td>
<td>Introduction and 1</td>
</tr>
<tr>
<td>September</td>
<td>8th and 10th</td>
<td>2</td>
</tr>
<tr>
<td>September</td>
<td>15th and 17th</td>
<td>3</td>
</tr>
<tr>
<td>September</td>
<td>22nd and 24th</td>
<td>Exam 1</td>
</tr>
<tr>
<td>September/October</td>
<td>29th and 1st</td>
<td>6 p.m.</td>
</tr>
<tr>
<td>October</td>
<td>6th and 8th</td>
<td>4 and 5</td>
</tr>
<tr>
<td>October</td>
<td>13th and 15th</td>
<td>6 and Extra Credit Information</td>
</tr>
<tr>
<td>October</td>
<td>20th and 22nd</td>
<td>Exam 2</td>
</tr>
<tr>
<td>October</td>
<td>27th and 29th</td>
<td>6 p.m.</td>
</tr>
<tr>
<td>November</td>
<td>3rd and 5th</td>
<td>8</td>
</tr>
<tr>
<td>November</td>
<td>10th and 12th</td>
<td>9</td>
</tr>
<tr>
<td>November</td>
<td>17th and 19th</td>
<td>10</td>
</tr>
<tr>
<td>November</td>
<td>24th and 26th</td>
<td>11</td>
</tr>
<tr>
<td>December</td>
<td>1st and 3rd</td>
<td>11</td>
</tr>
<tr>
<td>December</td>
<td>8th and 10th</td>
<td>12</td>
</tr>
<tr>
<td>December</td>
<td>15th</td>
<td>Final Exam</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 p.m.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exam Number</th>
<th>Date</th>
<th>Chapters Included</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tuesday, 22nd of September</td>
<td>1 – 3</td>
</tr>
<tr>
<td>2</td>
<td>Tuesday, 20th of October</td>
<td>4 – 6</td>
</tr>
<tr>
<td>3</td>
<td>Thursday, 12th of November</td>
<td>7 – 9</td>
</tr>
<tr>
<td>Make Up Exam</td>
<td>Thursday, 3rd of December</td>
<td>1 – 9</td>
</tr>
<tr>
<td></td>
<td>by appointment only</td>
<td></td>
</tr>
<tr>
<td>Final</td>
<td>Tuesday, 15th of December</td>
<td>10 through 12 – 25 questions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 through 9 – 25 questions</td>
</tr>
</tbody>
</table>

Dr. Doug Harris  
Office: Widtsoe 335, (435) 797-1609  
E-mail: doug.harris@usu.edu

Materials  
Scientific Calculator (no networking-capable calculators)
Coursework

Examinations, 3 @ 100 .................................................... 300
Final Exam, mandatory @ 200 ................................... 200
TOTAL ................................................................. 500

Grades

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% - 92%</td>
<td>A</td>
</tr>
<tr>
<td>91% - 88%</td>
<td>A-</td>
</tr>
<tr>
<td>87% - 85%</td>
<td>B+</td>
</tr>
<tr>
<td>84% - 81%</td>
<td>B</td>
</tr>
<tr>
<td>80% - 77%</td>
<td>B-</td>
</tr>
<tr>
<td>76% - 73%</td>
<td>C+</td>
</tr>
<tr>
<td>72% - 64%</td>
<td>C</td>
</tr>
<tr>
<td>63% - 60%</td>
<td>C-</td>
</tr>
<tr>
<td>59% - 57%</td>
<td>D+</td>
</tr>
<tr>
<td>56% - 50%</td>
<td>D</td>
</tr>
</tbody>
</table>

Note: Scores rounded to nearest one's place
(91.4% = 91% and 91.5% = 92%).
The instructor reserves the right to lower these
cutoff scores.

Policies and Procedures

1. The administration of Chemistry 1110 will adhere strictly to the policies (including the
issuing of incomplete) outlined in the USU 2015 – 2016 General Catalog.
2. Qualified students with disabilities may be eligible for reasonable accommodations. All
accommodations are coordinated through the Disability Resource Center (DRC) in Room
101 of the University Inn, 797-2444 voice, 797-0740 TTY, or toll free at 1-800-259-2966.
Please contact the DRC as early in the semester as possible. Alternate format materials
(Braille, large print or digital) are available with advance notice.
3. There will be three 50-minute exams and one 110-minute mandatory final exam.
Students will be permitted to use a calculator (no networking-capable calculators) for
each exam. Exams will not be rescheduled to another date and time.
4. Missed Exam Policy: Missed exams which have excused absences will be made up with
a comprehensive make-up exam. Excused absences include; (1) school excused
absences outlined in the general catalog, (2) illness, and (3) a family emergency.
Planned family trips, vacations, outings, and weddings are not excused absences.
Students should notify the instructor in advance, if possible, prior to missing any exam.
Students missing an exam (excluding the mandatory final exam) will have one week to
notify the instructor that they have an excused absence. Missed exams that are not made
up will be scored as zero. Only one missed exam can be made up. The make-up exam is
by appointment only and will be held on the date published in the class schedule at the
beginning of this syllabus. The make-up exam will not be rescheduled to another date
and time.
5. Keep in mind that the practice exam serves as an assessment of your understanding of
concepts presented in lecture. Hopefully you will be diligent about following the
suggested study plan outlined at the beginning of the course. Exam questions may be the
same or similar to the practice exam problems but may also be completely different.
6. Scantrons will be provided by the instructor.
7. When taking the exams, be sure to answer the problem and immediately fill out the
corresponding scantron bubble. Avoid waiting to fill out your scantron sheet when
finished with your exam. Keep in mind that the exams are multiple-choice and each
marked answer is either correct or incorrect. Credit will not be granted for problems that
are accidentally marked incorrectly (no answer indicated, two answers provided for one
problem, indicated scantron answers are one question number off, indicated scantron
answer does not match personal exam copy answer, etc.).
8. Double check your scantron sheet before turning it in. Make sure that all of your answers
have been entered the way you want them to appear on your scantron. Once a scantron
sheet is submitted, it may not be retrieved in order to make additions and/or changes.
9. Please arrive early to take each exam. Scantron sheets will not be handed out after the
first completed exam scantron sheet has been submitted. All requests for an exam and
scantron sheet after the first completed exam scantron sheet has been submitted will be
directly referred to this policy without further discussion.
10. Please set up your preferred e-mail account with IT services so that you will be able to
receive your e-mailed exam results. Make a print out of each exam results so that you
may track your progress in the course.
11. Although class attendance will not be officially taken, it will be absolutely essential that every effort is made in attending each lecture. All students will be held responsible for lecture material, worked problems, and/or course announcements that are presented in lecture.

12. If you choose to complete an optional extra-credit molecular modeling exercise, one percentage point (1%) will be added to your final grade percentage. This is helpful to those students who end up with a final borderline grade percentage. The extra-credit submission deadline will be at 6 p.m. Thursday, November 12th when we meet to take the third exam. Further information will be given in class on Tuesday, October 13th regarding the specific details in producing the extra-credit assignment.

**Main Course Objectives and Assessment**

1. Prepare students for careers in health-related professions, environmental, and agricultural science.
2. “To make the study of chemistry an engaging and positive experience by relating the structure and behavior of matter to its role in health and the environment” (see text preface).
3. Lecture learning checks will be used as a means of assessing student comprehension. These student-centered learning strategies have previously proven successful in this chemistry course.

**Some Learning Objectives:**

- Review math and learn to do calculations while working everyday examples of problems in health and medicine using metric units.
- Understand the relationship of isotopes to the atomic mass of an element on the periodic table.
- Understand the relationship between electron arrangement, group number, and periodic law.
- Understand different types of radiation, radiation protection, balancing of nuclear equations, and the fusion and fission processes.
- Learn the relationship between group numbers, valence electrons, and the formation of ionic and covalent compounds.
- Write ionic formulas and names of compounds with polyatomic ions.
- Use VSEPR theory to determine the shape, bond angles, and polarity of a molecule.
- Classify an equation as a combination, decomposition, replacement, combustion, and/or oxidation-reduction.
- For a given mass of a substance in a reaction, use the appropriate mole factors and molar masses to calculate the mass of a reactant, product/percent yield.
- Determine the energy lost or gained during a change of state/temperature.
- Use the ideal gas law to calculate an unknown pressure, volume, moles, and/or temperature of a gas.
- Understand solubility and determine whether a salt will dissolve in water.
- Calculate the percent concentrations and molarity of a solution.
- Describe the behavior of a red blood cell in hypotonic, isotonic, and hypertonic solutions.
- Understand and write the equilibrium constant for an equation.
- Describe the characteristics of acids and bases.
- Classify bases/acid as strong or weak.
- Predict whether a salt will form an acidic, basic, or neutral solution.
- Describe the function of a buffer.
- Describe the properties and functional groups found in organic compounds.
- Describe the physical properties and write the IUPAC names of alkanes and cycloalkanes.
- Describe the properties, reactions, and IUPAC names of alkenes and alkynes.